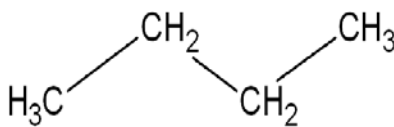
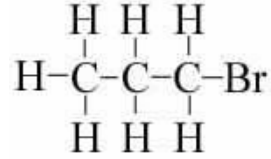
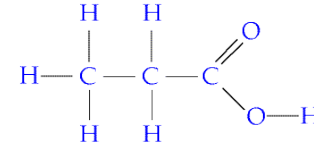
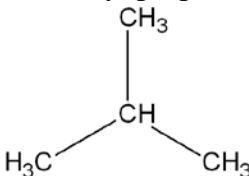
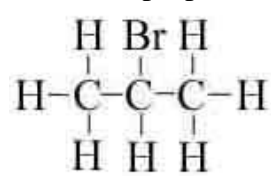
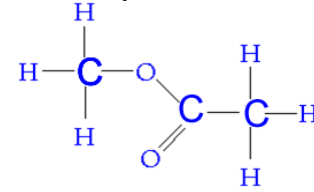
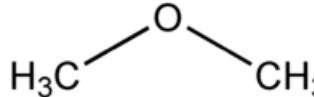


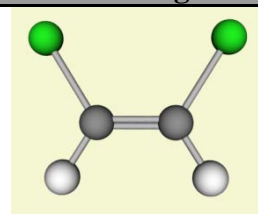
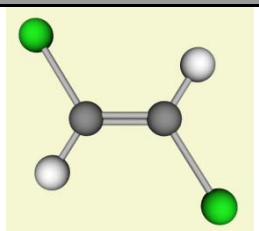
Isomers

Isomers are molecules that have the same molecular formula but different structural formula

1) Structural

chain isomerism	positional isomerism	functional group isomerism
<p style="text-align: center;">butane</p> 	<p style="text-align: center;">1-bromopropane</p> 	<p style="text-align: center;">propanoic acid</p> 
<p style="text-align: center;">2 methyl propane</p> 	<p style="text-align: center;">2-bromopropane</p> 	<p style="text-align: center;">methyl ethanoate</p> 
<p style="text-align: center;"><i>pentane C₅H₁₂ has 3 isomers make, draw & name them</i></p>	<p style="text-align: center;"><i>make & draw butan-1-ol and butan-2-ol</i></p>	<p style="text-align: center;"><i>C₂H₆O has 2 isomers methoxy methane (an ether)</i></p>  <p style="text-align: center;"><i>and</i></p>

2) Stereoisomers

geometric cis or trans isomers	Enantiomers (for Level 3 Chemistry)
	
	
cis-1,2-dichloroethene	
trans-1,2-dichloroethene	

- restricted rotation about a C=C
- 2 different groups on the left hand side and 2 different groups on the right hand side

*make & draw cis-but-2-ene
and
trans-but-2-ene*

additional information (for Level 3 Chemistry)

	mp (°C)	bp (°C)
cis	-80	60
trans	-50	48

why is the bp of cis higher?

cis is polar trans is non-polar with
permanent dipole forces as well as temporary dipole forces
so
more energy is required to boil the cis isomer so bp is higher

why is the melting point of cis lower?

in a solid state the molecules must pack together efficiently, however the U
shape of the cis isomer will not pack as well as the straight shape of the
trans isomer
so
less energy is needed to melt the cis isomer so the mp is lower